WholeSoldier Performance: The Model and Early Implementation

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USAREC and USAAC asked us to redefine “Soldier Quality” in a quantifiable manner. In order to do so, we employed Value-Focused Thinking as the methodology for consultation with the Army concerning the performance attributes desired in Soldiers. The resulting WholeSoldier model is useful for both mentoring of Soldiers and informing strategic personnel decisions. WholeSoldier Performance is now being implemented for mentoring in one Army division and in a basic training unit; the data generated will inform a variety of recruiting decisions.

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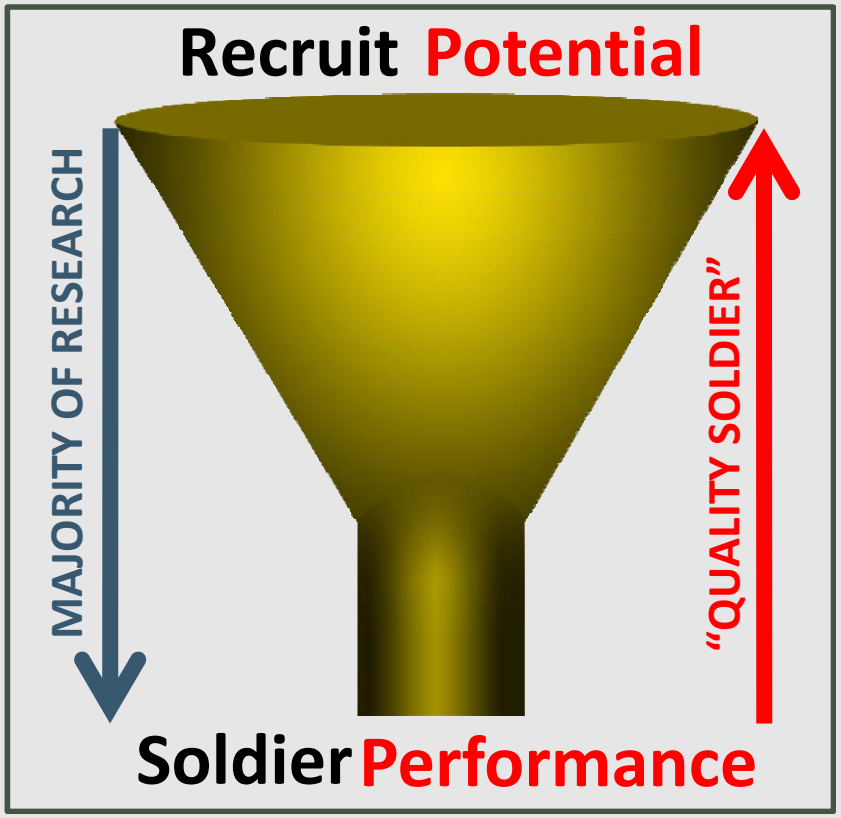
Approach

Longitudinal Study

- High Cost
- Long Duration
- Collect massive amounts of data on what we think might solve the problem, and see if something useful is revealed over time.
- "We'll see in the end."



Value-Focused Study

- Low Cost
- Short Duration
- First determine "what we want."
- Collect focused data and make inferences on the larger population.
- "Begin with the end in mind." - *Stephen Covey*

"Many hiring decisions start off on the wrong foot because the company hasn't clarified exactly what it wants in the new hire."

- Hiring and Keeping the Best People, Harvard Business Essentials, p. 6.

"The perfection of means and confusion of ends seems to characterize our age." *- Einstein*

Both are needed, but value-focused studies or "what we want" should inspire longitudinal studies.

WholeSoldier Performance Model

Purpose:
Selfless Service
Sacrifice
Commitment
Loyalty
Duty

Interaction:
Respect
Empathy
Compassion
Humor

Knowledge:
Job Tasks/Skills
Education
Trainability
Learning

Judgment:
Common Sense
Logical Decisions
Understanding
Anticipation
Insight/Filtering
Adaptive/Flexible

Motivation:
Will to Win
Endurance
Resilience
Stick-to-it-iveness
Heart / Drive
Determination
Work Ethic

Moral Domain

Cognitive Domain

Application:
Planning
Communicating
Executing

Character:
Honor
Integrity
Justice
Candor
Personal Courage

Physical Domain

Medical Health:
Illness Resistance
Nutrition
Body Composition

Conduct:
Maturity
Discipline
Bearing
Coolness

Self-Esteem:
Confidence
Self-Worth
Self-Efficacy

General Fitness:
Cardio Endurance
Cardio Strength
Muscular Endurance
Muscular Strength

Athletic Skills:
Coordination
Agility
Balance
Power
Speed
Accuracy
Flexibility
Reaction Time

TEACHING FUTURE ARMY LEADERS TO SOLVE COMPLEX PROBLEMS

WholeSoldier Model in Action

Draft Developmental Counseling Form

PRINCIPAL PURPOSE: To assist leaders in conducting and recording counseling data pertaining to subordinates.
ROUTINE USES: For subordinate leader development IAW FM22-100. Leaders should use this form as necessary.
DISCLOSURE: Disclosure is voluntary.

PART I- ADMINISTRATIVE DATA

Name (Last, First, MI)	Rank/Grade	Soldier AKO Username	Date of Counseling

Organization	Name and Title of Counselor

Part II - Evaluation of Performance

KEY	1 "Always" "Unacceptable" "Separate from Army"	2 "Most of the Time" "Very Bad" "Problem Soldier"	3 "Sometimes" "Bad" "Needs some work"	4 "Neutral" "Just Enough" "Only what is required"	5 "Sometimes" "Good" "Bit more than standard"	6 "Most of the time" "Very Good" "Solid Performer"	7 "Always" "One of the best" "Example for Others"

Moral Domain

PURPOSE: Selfless Service, Sacrifice, Commitment, Loyalty, Duty

○	○	○	○	○	○	○
Not a team player and displays an individualistic attitude. Soldier tends to put personal desires before others and unit mission.			Soldier neutral towards the team.	Committed to performing duties even when sacrifice required. Selfless member of the team with loyalty to mission and unit.		

Examples/Comments:

MOTIVATION: Will to Win, Endurance, Resilience, Heart, Drive, Determination, Work Ethic

○	○	○	○	○	○	○
Lacks determination and drive to get the job done. Doesn't respond well to tough conditions or bounce back from setbacks.			Minimum effort required.	Possesses the will to win and puts forth best effort. Won't quit and positively responds to setbacks. Inspires motivation in others.		

Examples/Comments:

INTERACTION: Respect, Empathy, Compassion, Humor

○	○	○	○	○	○	○
Cynical, negative, or inconsiderate towards others. Doesn't exert effort to interact with others and/or is awkward in interaction.			Soldier is just there.	Positive, respectful, outgoing, and humorous. Makes others comfortable to share ideas/issues and adds to team atmosphere.		

Examples/Comments:

CONDUCT: Maturity, Discipline, Bearing, Reliability, Coolness

○	○	○	○	○	○	○
Needs constant supervision and has problems leading a balanced life. Disrespectful to chain of command. Loses bearing/coolness.			Acceptable conduct.	Performs well without supervision and within intent. Mature lifestyle and coolness/bearing under stress is example for others.		

Examples/Comments:

CHARACTER: Honor, Integrity, Justice, Candor, Personal Courage

○	○	○	○	○	○	○
Looks for loopholes and lacks integrity to be trusted. Won't take a stand for right or take ownership of mistakes.			Marginal character.	Can be trusted to do and stick up for what is right. Accepts and strives to correct mistakes. Tells whole truth even when painful.		

Examples/Comments:

SELF-ESTEEM: Self-Efficacy, Self Worth, Confidence

○	○	○	○	○	○	○
Lacks confidence and is unsure of ability to accomplish mission/goals. Won't try new things and thinks of excuses when failure may happen.			Marginal confidence level.	Displays confidence in interactions and execution of tasks. Understands value to team, isn't afraid to fail, and believes he/she is up to the task.		

Examples/Comments:

KEY	1 "Always" "Unacceptable" "Separate from Army"	2 "Most of the Time" "Very Bad" "Problem Soldier"	3 "Sometimes" "Bad" "Needs some work"	4 "Neutral" "Just Enough" "Only what is required"	5 "Sometimes" "Good" "Bit more than standard"	6 "Most of the time" "Very Good" "Solid Performer"	7 "Always" "One of the best" "Example for Others"

Cognitive Domain

KNOWLEDGE: Education, Trainability, Capacity, Technical MOS Skills

○	○	○	○	○	○	○
Untrainable and has shown an unwillingness to learn. Lacks the technical competence to complete tasks.			Basic grasp of MOS tasks.	Knows his/her task two levels up. Seeks higher learning. Soldier is an intelligent, life-long learner.		

Examples/Comments:

JUDGEMENT: Visualization, Analysis/Insight, Conceptualization, Filtering

○	○	○	○	○	○	○
Soldier displays a lack of good judgment. Soldier does not apply "common sense." Soldier makes choices that hurt the team.			Marginal Judgment.	Soldier makes good decisions. Soldier sees the big picture and knows what is important. Soldier has insight.		

Examples/Comments:

APPLICATION: Ability to Translate Knowledge and Judgement into Action, Multi-Tasking

○	○	○	○	○	○	○
Soldier is continually reliant on others. Soldier can't handle more than one task at a time. Cannot get the job done.			Ability to complete required tasks.	Able to apply knowledge/ judgment to complete complex tasks. Able to perform more than one task at a time to standard.		

Examples/Comments:

Physical Domain

PHYSICAL FITNESS: Endurance, Stamina, Strength, Flexibility,

○	○	○	○	○	○	○
Soldier does not meet established Army standards. Soldier cannot carry his/her share of the load. Soldier fails APFT.			Meets minimal physical standard.	Soldier carries more than his/her share of the load. Soldier meets and exceeds established Army PT standards.		

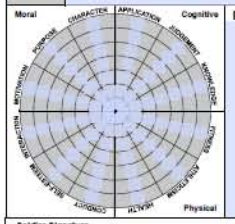
ATHLETICISM: Power, Speed, Coordination, Agility, Balance, Accuracy

○	○	○	○	○	○	○
Soldier is awkward/unathletic on tasks requiring coordination. Soldier cannot fight. Soldier is unable to perform under load.			Soldier has average athletic ability.	Soldier is an athlete and can apply power, agility, speed, coordination, and accuracy simultaneously in mission situations.		

MEDICAL FITNESS: Illness Frequency, Physical Wellness, Body Composition

○	○	○	○	○	○	○
Soldier is regularly on profile or at sick call. Fails to meet body % standard. Unhealthy habits contribute to poor performance.			Maintains average medical health.	Soldier is not hindered by sickness/injury. Takes care of his/her body to prevent illness. Thrives under hard training.		

Examples/Comments:



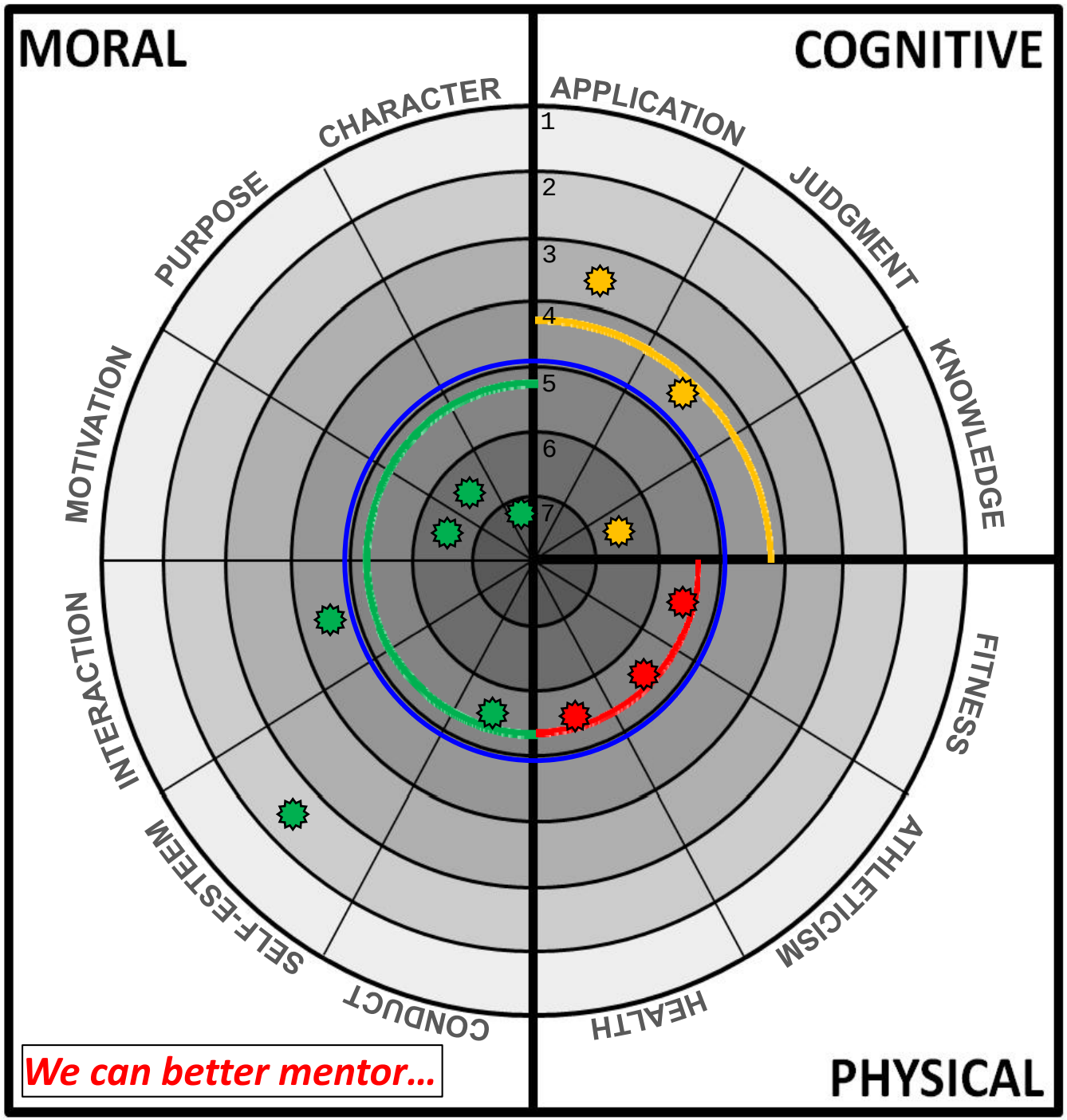
Part III: Plan of Action

Soldier Signature	Date
Counselor Signature	Date

TEACHING FUTURE ARMY LEADERS TO SOLVE COMPLEX PROBLEMS

"*WholeSoldier*" Sample Performance Report

Infantryman #24



Moral Performance = 44/59 = 5.22/7

- **Character-** Totally trustworthy, and always sticks up for what is right.
- **Purpose-** Displays commitment and self-sacrifice to the team 95% of the time.
- **Motivation-** Soldier puts forth max effort and only rarely gives less than his all.
- **Interaction –** Shows respect and is compassionate, but sometimes is awkward in interpersonal interactions.
- **Self-Esteem-** Doesn't display confidence or view himself as a valuable member of the team.
- **Conduct –** Soldier displays maturity and discipline by completing tasks without supervision, but sometimes loses his cool when under stress.

Cognitive Performance = 15/25= 4.20/7

- **Knowledge-** Soldier demonstrates total knowledge of MOS tasks and studies to learn next level up.
- **Judgment-** Makes logical decisions, but has problems filtering irrelevant information.
- **Application-** Sometimes unable to plan effectively to implement decisions.

Physical Performance = 12/16 = 5.25/7

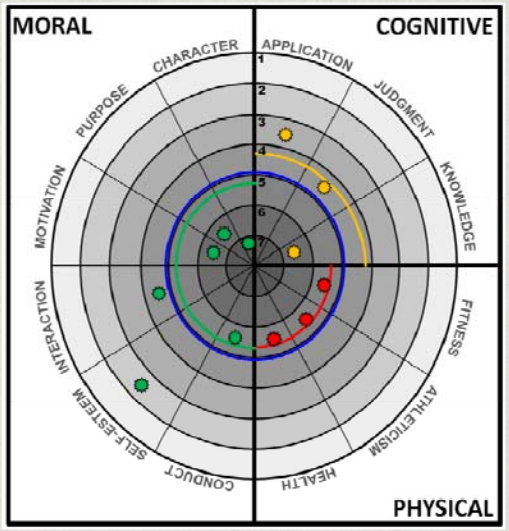
- **Fitness-** Scored 263 last APFT.
- **Athleticism-** Displays better than average coordination, agility in combat-focused tasks.
- **Health-** Maintains body better than average.

***"WholeSoldier"* Performance = 71/100 = 4.97/7**

WholeSoldier Performance Study

Primary Recommendation: The Army should **routinely** assess "*WholeSoldier*" Performance along a **continuum** across the **entire force**. Using "*WholeSoldier*" Performance as an **endstate metric** opens the door to many **strategic possibilities** that will inform decisions relating to Soldiers.

Bottom Up Evaluation



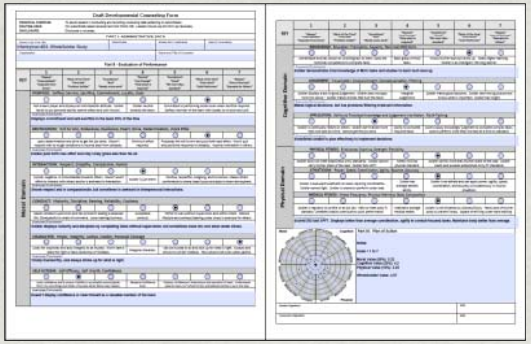
Top Down Elicitation

Pairwise comparison for order[1]

Asset	Compared to: Asset A	Asset B	Asset C	Asset D	Total
Asset A		3	2	3	8
Asset B	1		3	2	6
Asset C	2	1		1	4
Asset D	1	2	3		6

Bonus assignment for value

Results



1. www.thesecurityminute.com

"*WholeSoldier*"

Sample Population Data

4 Infantry Platoons

NAME	Purpose:	Motivation:	Social:	Conduct:	Character:	Self-Esteem:	Thought:	Capability:	Knowledge:	Physical:	Medical:	Elicited Total	Moral	Cognitive	Physical	Total	Rank
	7	7	7	7	7	7	7	7	7	6	7	100	59	25	15	98.6926	1
	5	6	7	6	7	7	7	7	7	7	7	95	53	25	16	93.8472	2
	6	6	5	6	7	6	6	6	6	7	6	95	51	21	15	87.5789	3
	6	6	5	6	7	5	6	6	7	7	5	95	50	22	14	86.6244	4
	6	6	6	6	7	5	6	5	5	7	6	100	51	19	15	85.2336	5
	7	6	5	7	7	5	6	5	5	5	6	100	53	19	13	84.6554	6
	7	6	6	3	6	7	6	6	6	7	5	95	49	21	14	84.0396	7
	5	4	6	6	7	6	7	6	6	4	4	90	48	22	9	79.4016	8
	5	6	5	5	6	5	6	5	6	6	6	85	45	20	14	79.2734	9
	6	6	4	6	6	6	5	4	4	6	6	95	48	15	14	77.7282	10
	5	6	5	5	6	6	4	5	5	6	5	80	46	16	13	75.7640	11
	5	6	5	5	6	4	5	5	5	6	6	75	44	18	14	75.7378	12
	5	6	5	5	6	5	4	5	4	6	6	70	45	15	14	74.4603	13
	6	6	3	7	7	3	3	5	4	5	6	80	47	14	13	73.8387	14
	5	6	6	6	4	6	4	4	5	5	6	85	46	15	13	73.7372	15
	6	5	6	6	7	5	4	4	6	3	3	75	50	16	7	73.1613	16
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	1	1	1	1	1	1	1	2	1	1	1	1	8	5	2	15.3846	61

Method:

1. Assess sub-domain performance (1-7).
2. Evaluate performance holistically (1-100).
3. Use correlation analysis to infer weights.
4. Calculate Moral, Cognitive, Physical, and *WholeSoldier* total.

Finding / Insight:

a. *WholeSoldier* "tells the story" of individual areas of relative strength and weakness and allows us to "see" the entire population.

Conclusion:

a. We can provide many levels of distinction on *WholeSoldier* Performance.

b. *WholeSoldier* Performance assessment is useful feedback to subordinates for use as a developmental counseling tool.

c. *WholeSoldier* Performance is a good "endstate metric" and will provide information for sound decision-making in many areas.

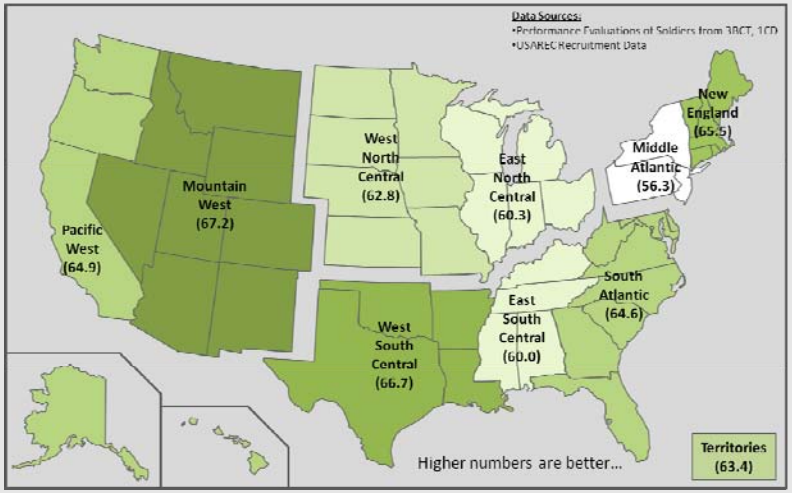
THE FOLLOWING INSIGHTS ARE ONLY POSSIBLE BECAUSE WE HAVE CLEARLY DEFINED OUR DESIRED ENDSTATE!

Strategic Possibilities (1 of 2)

Given "WholeSoldier" Performance implementation, we can better:

Recruit: ***Develop holistic model of "WholeRecruit" Potential longitudinally and:***

- » **Quantify risks/opportunities** involved in adjusting enlistment policies/standards.
- » **"Screen in"** during times of recruiting difficulty and **"screen out"** in times of recruiting richness.
- » **Offer individual incentives** for various MOS based on *WholeRecruit* Potential, desires of the candidate, and needs of the Army.
- » Continually **consider various "entry metrics"** for updates to the *WholeRecruit* model.
- » **Adjust target market** and allocate assets based on both quantity and quality.
- » **Adjust marketing message** to target "who we want."
- » **Issue recruiting missions** to reflect a distinct quantity vs. quality balance.

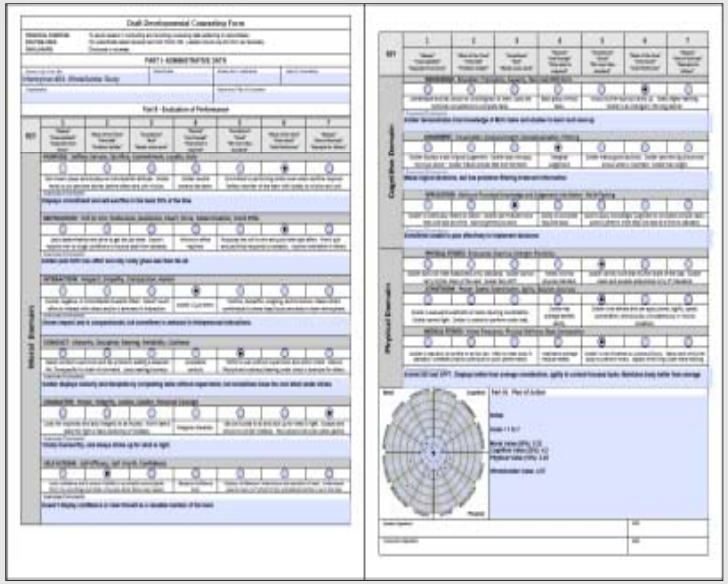


NOTE: Only for discussion of possibilities; not intended as a conclusive result for use in current decisions.

Strategic Possibilities (2 of 2)

Given "WholeSoldier" Performance implementation, we can better:

Develop and Counsel Soldiers:



+

Provide Strategic Situational Awareness:

Policy Decision +

+ **Business Model** Google amazon.com =

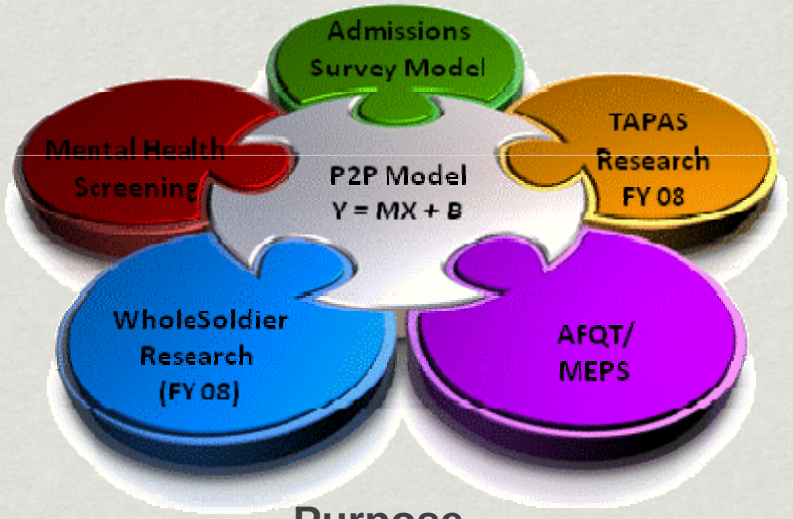
Measured Effect

Situational Awareness

Soldier Potential to Performance Model

Client: Accessions Command

Reverse Engineering Soldier Performance



Purpose

Develop an application to predict the future performance of a recruit based upon attributes we can observe about that recruit upon their indication of interest in service.

Objectives

- Identify pre-existing attributes that indicate the potential for a high performing Soldier
- Develop predictive models that leverage the known attributes of a recruit to predict performance in an operational unit
- Improved ability to screen soldiers who are unlikely to perform well in units

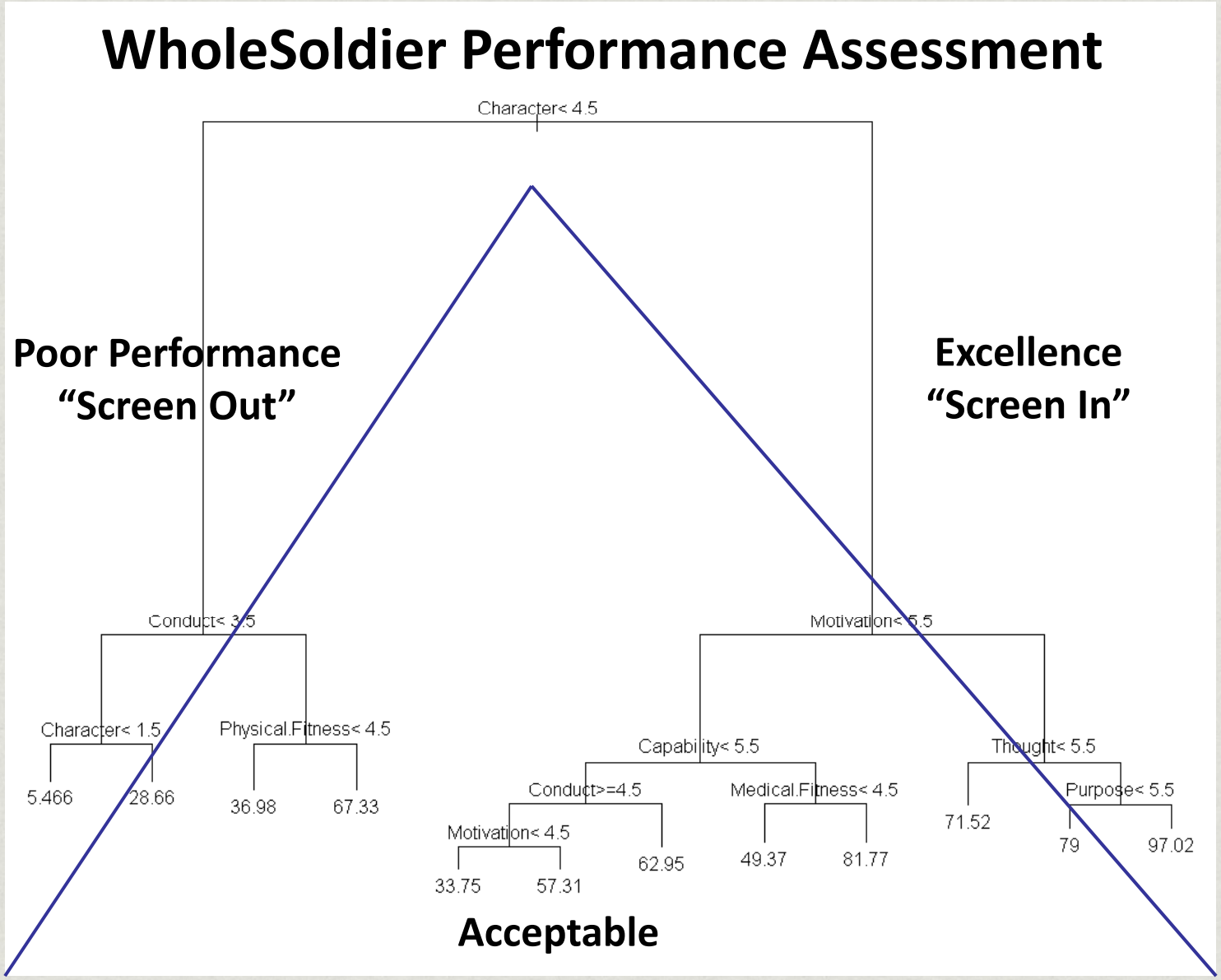
Technical Approach

- Identify Data Shortfalls: Officer Candidate vs. Enlisted Soldier
- Surveys for Additional Data Collection
- WholeSoldier Performance Assessment
- Data Mining (Regression, Neural Networks, LDA, SVM etc.) to link Performance to Potential

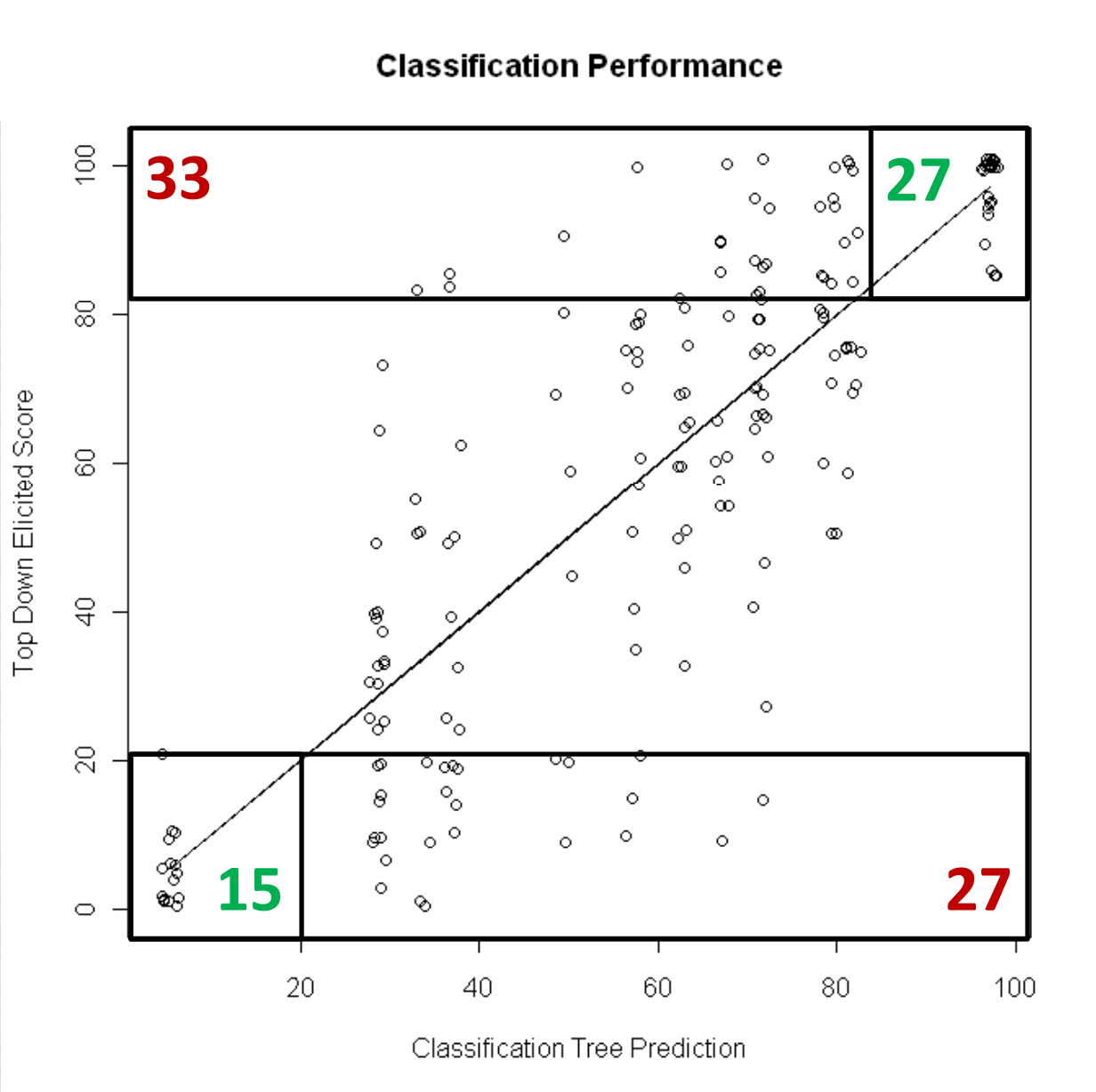
Deliverables

- QRR Presentation on Methodology (JAN 09)
- OSUT Success Prediction Model (MAR '10)
- In-Unit Success P2P Model (JUL '10)
- Final Briefing (JUL'10)
- Technical report (AUG 1'0)

Statistical Learning
A Performance Classification Model



Classification Model Performance



Excellence

Accuracy = 45%

Precision = 100%

Poor Performance

Accuracy = 36%

Precision = 100%

Soldier Record Development

Predictors

Accessions Database

- *ASVAB/AFQT*
- *HS Diploma*
- *Medical Waiver*
- *Moral Waiver*
- *Age*
- *Demographics*
- *Family*

TAPAS Score

- *"Can Do"*
- *"Will Do"*

Soldier Survey

- *Athletics*
- *Leadership*
- *Extracurricular*
- *Scouting*
- *Work History*
- *Family History*

Responses

Unit Record

Positive

- *SOM / SOQ*
- *Promotion*
- *APFT/Rifle Qual*

Negative

- *UCMJ*
- *Chapter*
- *Medical Board*

WholeSoldier Evaluation

Positive

- *Character*
- *Motivation*
- *Thought*
- *Purpose*

Negative

- *Character*
- *Conduct*

The Research Question

- **What attributes are statistically linked to poor performance?**
  - Failure to complete OSUT
  - WholeSoldier Performance Assessment Model (Character and Conduct)
  - Unit Recommendation of Removal (WholeSoldier Counseling)
  - APFT/Marksmanship Failure
  - Article 15/UCMJ Action in Unit

- **What attributes are statistically linked to excellence?**
  - Special Recognition in OSUT
  - Special Recognition in Unit (Soldier Boards, Promotion etc.)
  - APFT/Marksmanship Excellence
  - WholeSoldier Performance Assessment Model (Character, Motivation, Thought, Purpose)

Hypothetical WholeSoldier Application

- The outcome of this analysis is a series of **profiles**.
- Because of **measurement error** (accuracy/precision) on the response variables, it is **not possible to calculate the probability of poor performance** for a given profile.
- It is possible to calculate a **lower bound** of that probability using the **presumption of competence.**
- We can use that lower bound as a **profile risk score.**

Profile X

- Data Set of 1000
- 95 observations
- 45 "Poor Performers"

} Lower Bound of P(Poor|X) = 47%

Profile Y

- Data Set of 1000
- 150 observations
- 20 "Poor Performers"

} Lower Bound of P(Poor|Y) = 13%

Hypothetical WholeSoldier Application

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Profile X

- Data Set of 1000
- 95 observations
- 45 WholeSoldier Failures

} Lower Bound of P(Poor|X) = 47%

The hard part is identifying ***statistically significant profiles***

Profile Y

- Data Set of 1000
- 150 observations
- 20 WholeSoldier Failures

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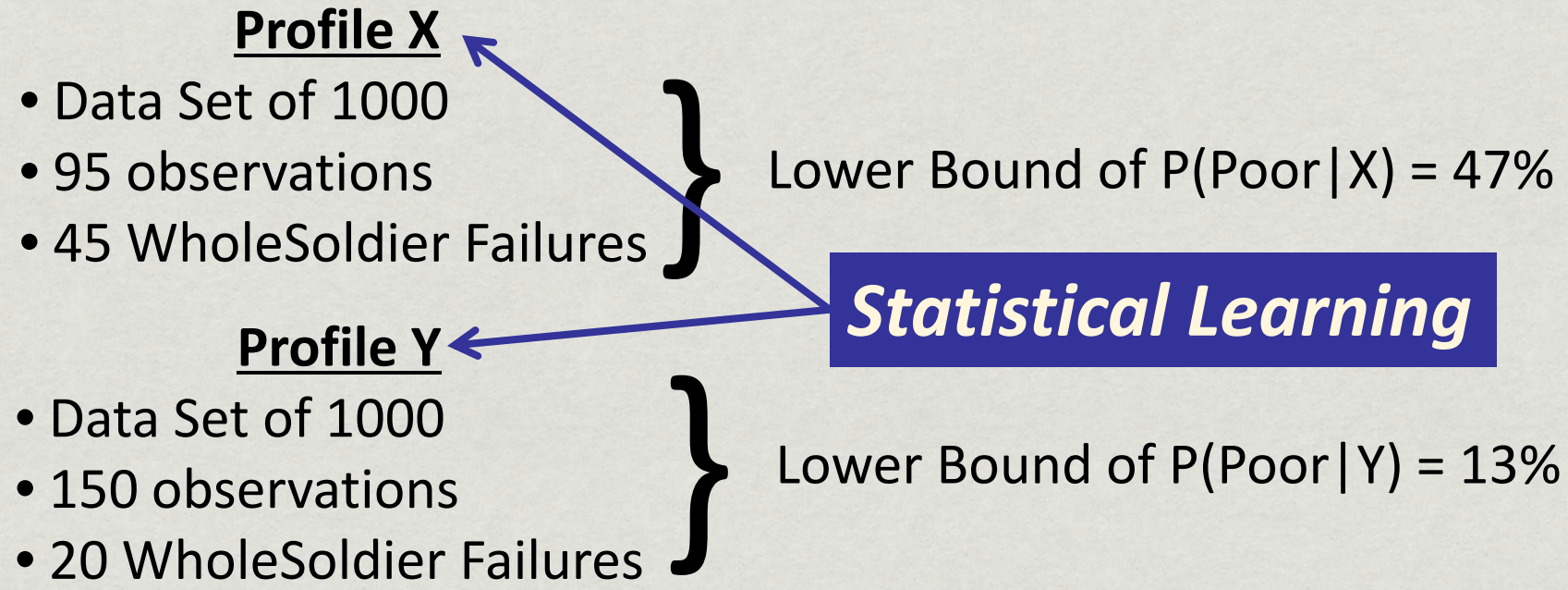


Questions/Discussion

1. WholeSoldier Performance Study (MAJ Dees)

Problem: *The Army needs a* ***holistic model*** *of Soldier performance in the* ***moral, cognitive, and physical domains.***

2. WholeOfficer Performance Study (Cadets)

Problem: *The Army needs a system to accurately* ***assess the performance of officers*** *in a* ***holistic manner*** *that provides* ***significant distinction****.*

3. WholeCadet Performance Study (Cadets)

Problem: *USMA needs a system to accurately* ***assess the performance of cadets*** *in a* ***holistic manner*** *that provides* ***significant distinction****.*

4. WholeRecruit Potential to Performance Study (MAJ Huddleston)

Problem: *The Army needs a* ***holistic model*** *of recruit potential* ***to predict WholeSoldier Performance****.*

The Army can establish ***automated data-basing*** *of WholeSoldier Performance data that facilitates* ***longitudinal modeling*** *of WholeRecruit Potential to* ***provide strategic situational awareness*** *and* ***leading indicators****.*

Quality Cadet: Problem Definition and Idea Generation

By:
CDT Bunz
CDT Morrison
CDT Park
CDT Shields

Agenda

- The Problem
- Admissions
- Current System
- Breakdown of Current Cadet Assessment
- Current Evaluation System
- Issues
- Assessment Tool
- Solution Implementation

Define the Problem

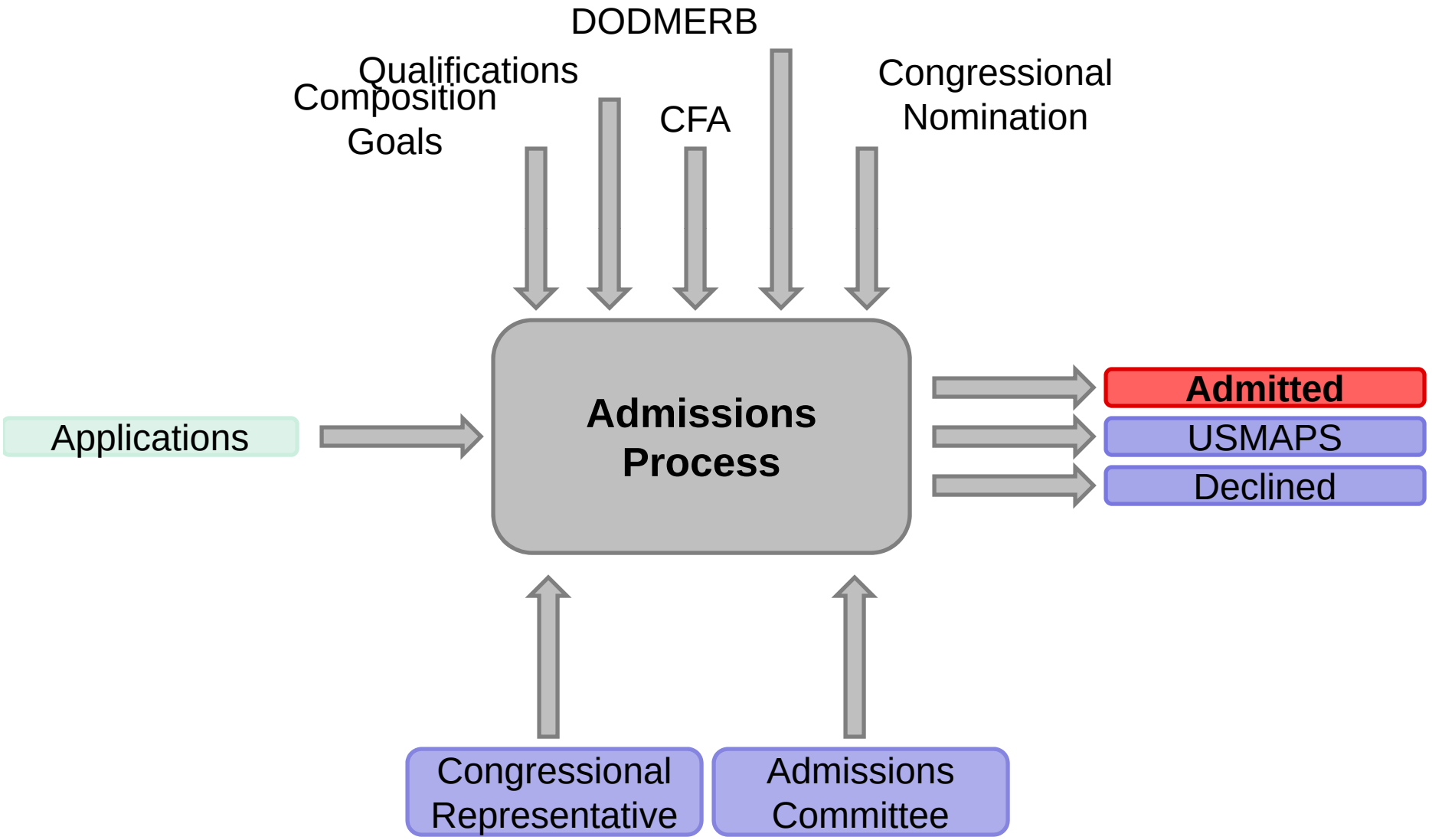
- Problem
  - ***Currently the United States Military Academy assesses cadets based on Academic, Military, and Physical performance. However, the measures used to evaluate cadets and the weights assigned to each subcategory of the three pillars may not accurately reflect the qualities that West Point should be concerned with when focused on molding future Army Officers.***
- Assumption
  - Cadet Leader Development System (CLDS) document represents what we want with regards to cadet assessment.
  - We will assess cadets in line with CLDS

Problem Statement

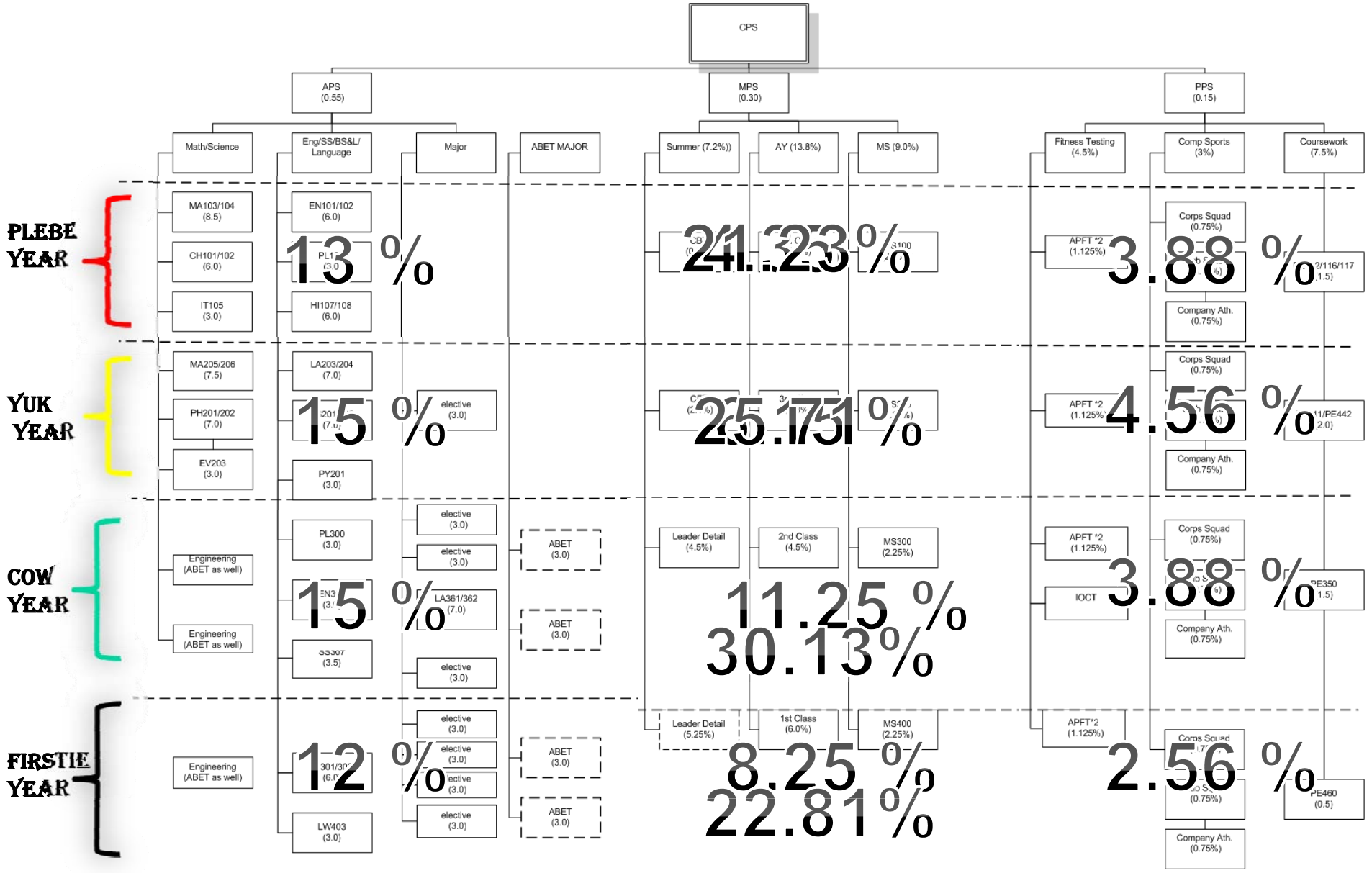
The United States Military Academy stands to produce commissioned leaders of character, ones that produce on and off the battlefield. Thus, West Point strives to achieve a standard out of each cadet in certain areas that are believed to correlate well to the Army. Cadets are ranked based on these criteria, leading to a Cadet Performance Score at the end of their time here at West Point. This ranking determines what branch of the Army and what unit the cadet will serve in, based on merit-based selections.

The Academy **needs a system to accurately assess the performance of cadets in a holistic manner that provides sufficient distinction**. The system should reflect what we want and provide insight into the **true quality of a cadet**.

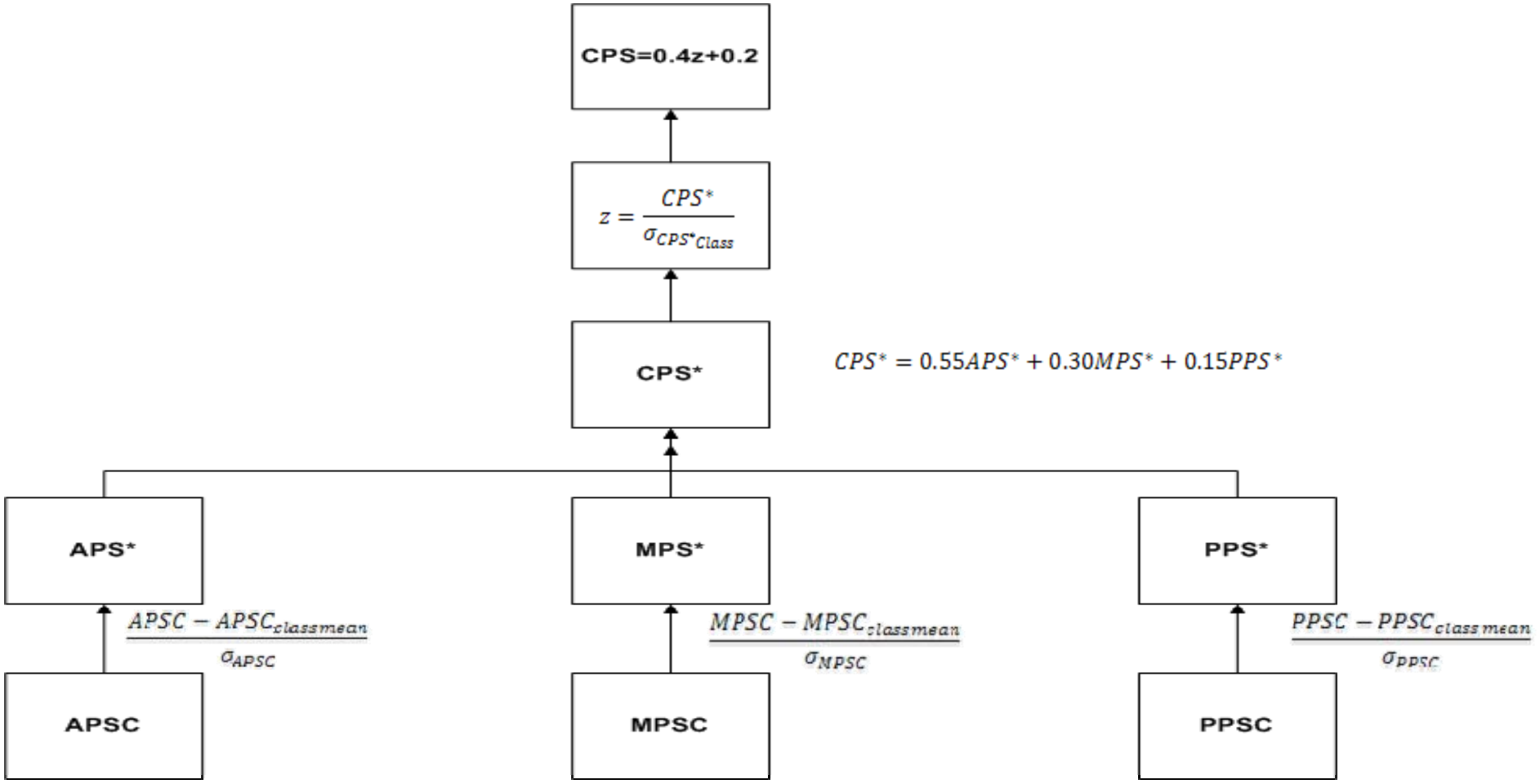
Admissions I



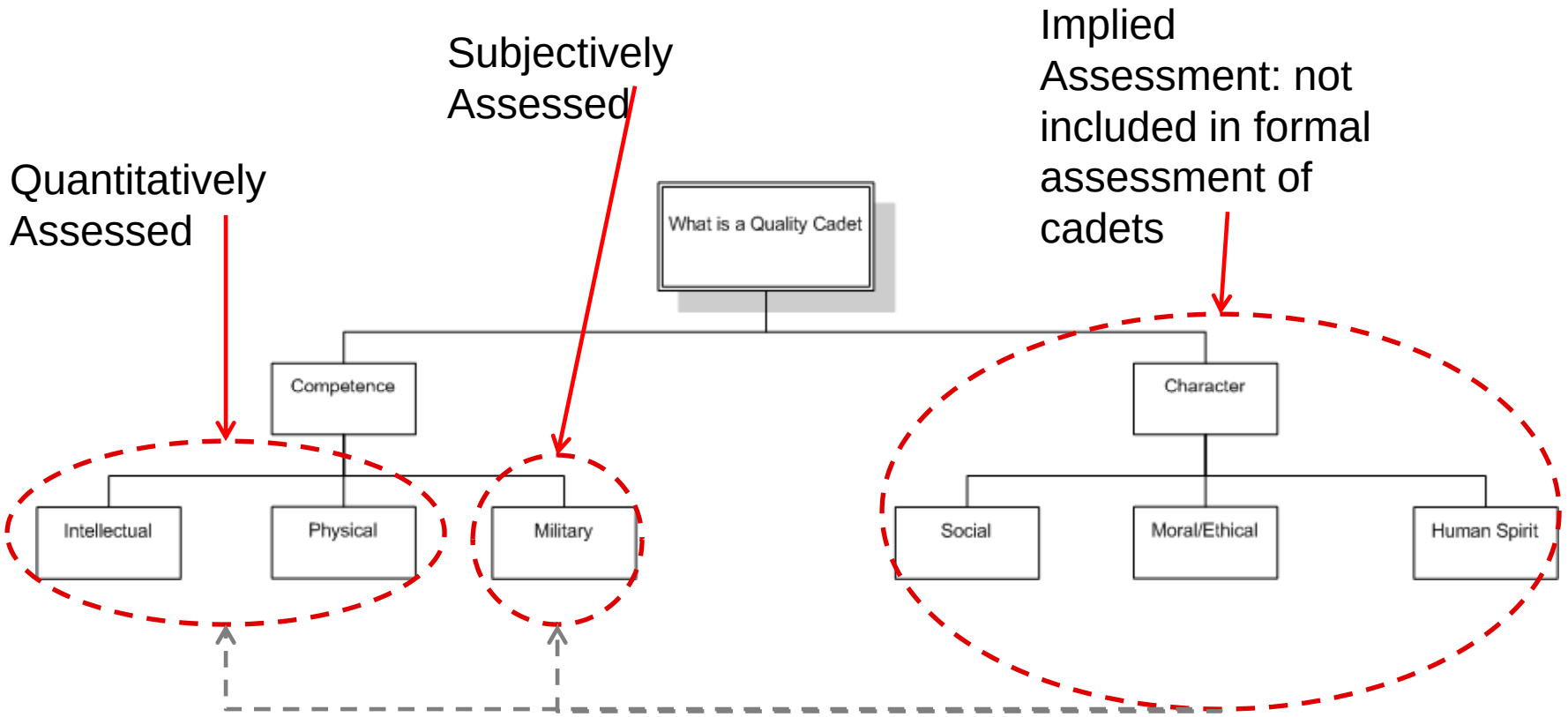
Current Cadet Assessment



Current Assessment Continued:



Continued: CLDS



Continued…

- Tools used to “subjectively assess” the military domain:
  - Periodic Development Reviews (PDR)
  - Paper Counseling
  - Cadet Observation Reports (COR)

ISSUES

- Are these tools effective?
  - NO!
    - PDRs, counseling, and CORs are rarely referenced when grading an individual on military performance
- Does 360 degree assessment exist?
  - Not explicitly!
  - The Rater, Intermediate Rater, and TAC control 100% of the individuals grade
    - What about the subordinates, peers, and other influencers external to the CoC?

Stakeholder Thoughts

- MAJ Mayo: Representative of the Brigade Tactical Department
  - When grading cadets ***militarily***, “we need to take a 360 degree approach.”
- COL Sweeny: Member of the CLDS committee and coauthor of Leadership Lessons from West Point.
  - He feels that a 360 degree assessment is a necessity for Cadet Development.

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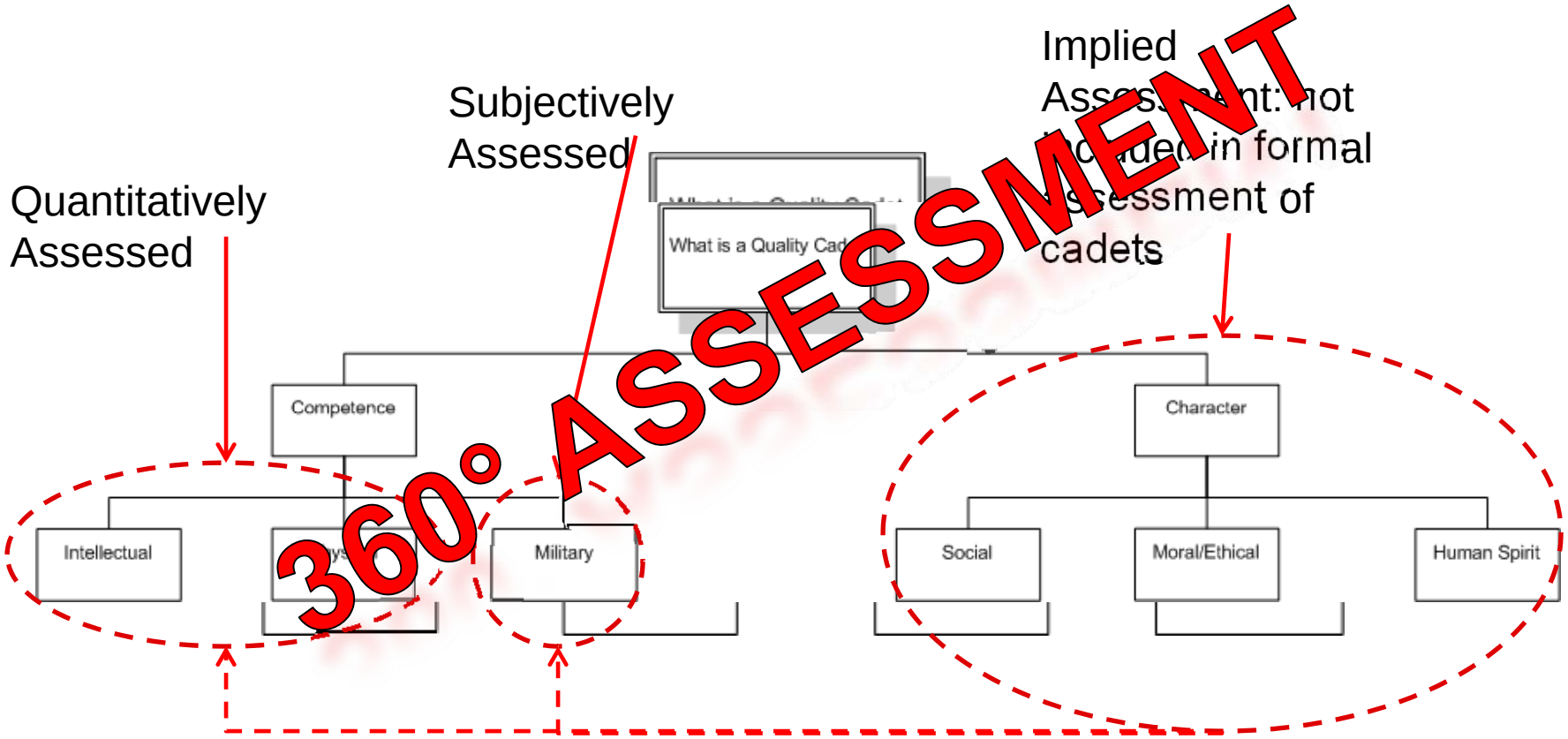
Our Goal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Intellectual
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Example of Assessment Form

Character:
- Moral Courage
- Courage
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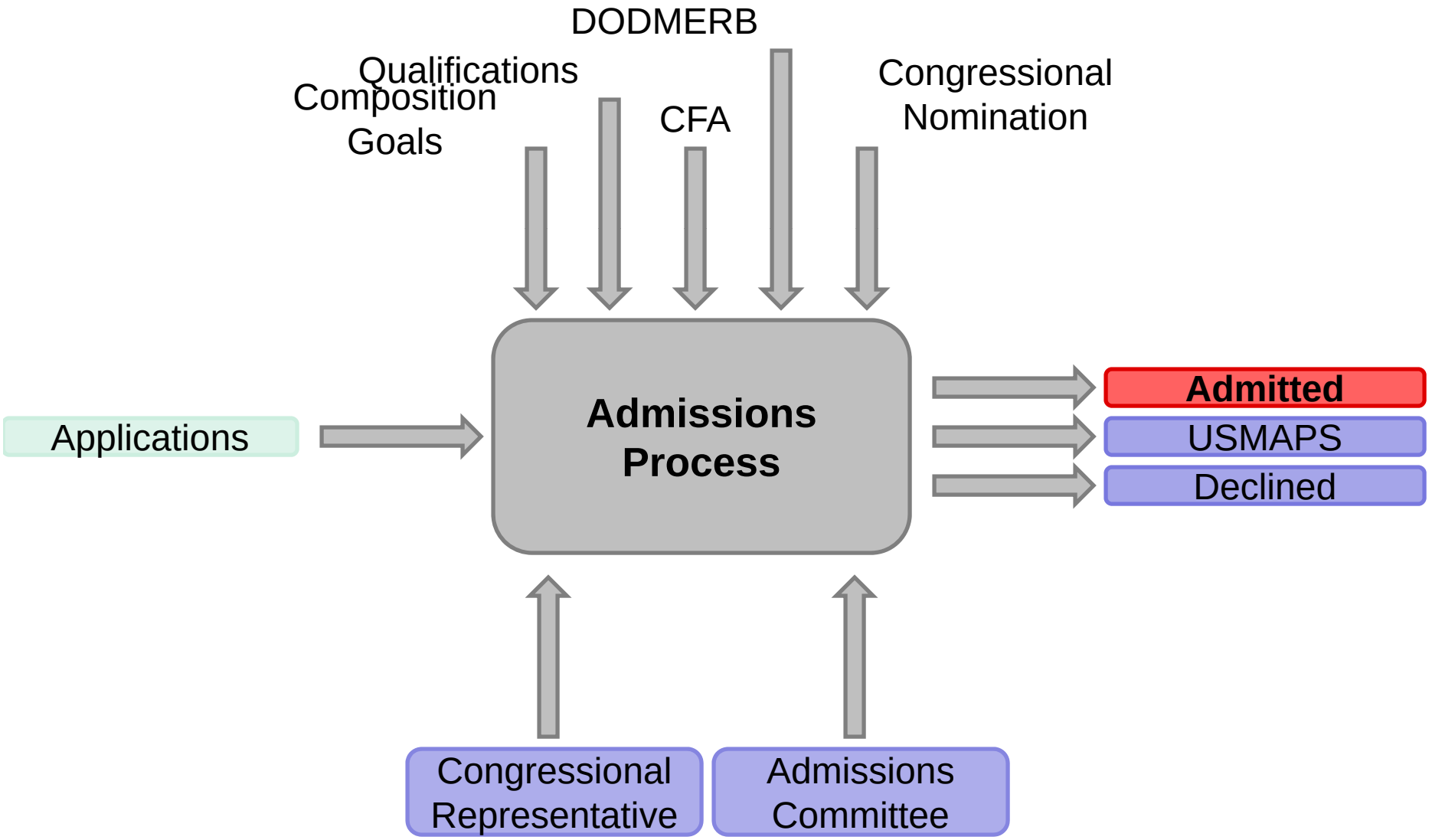

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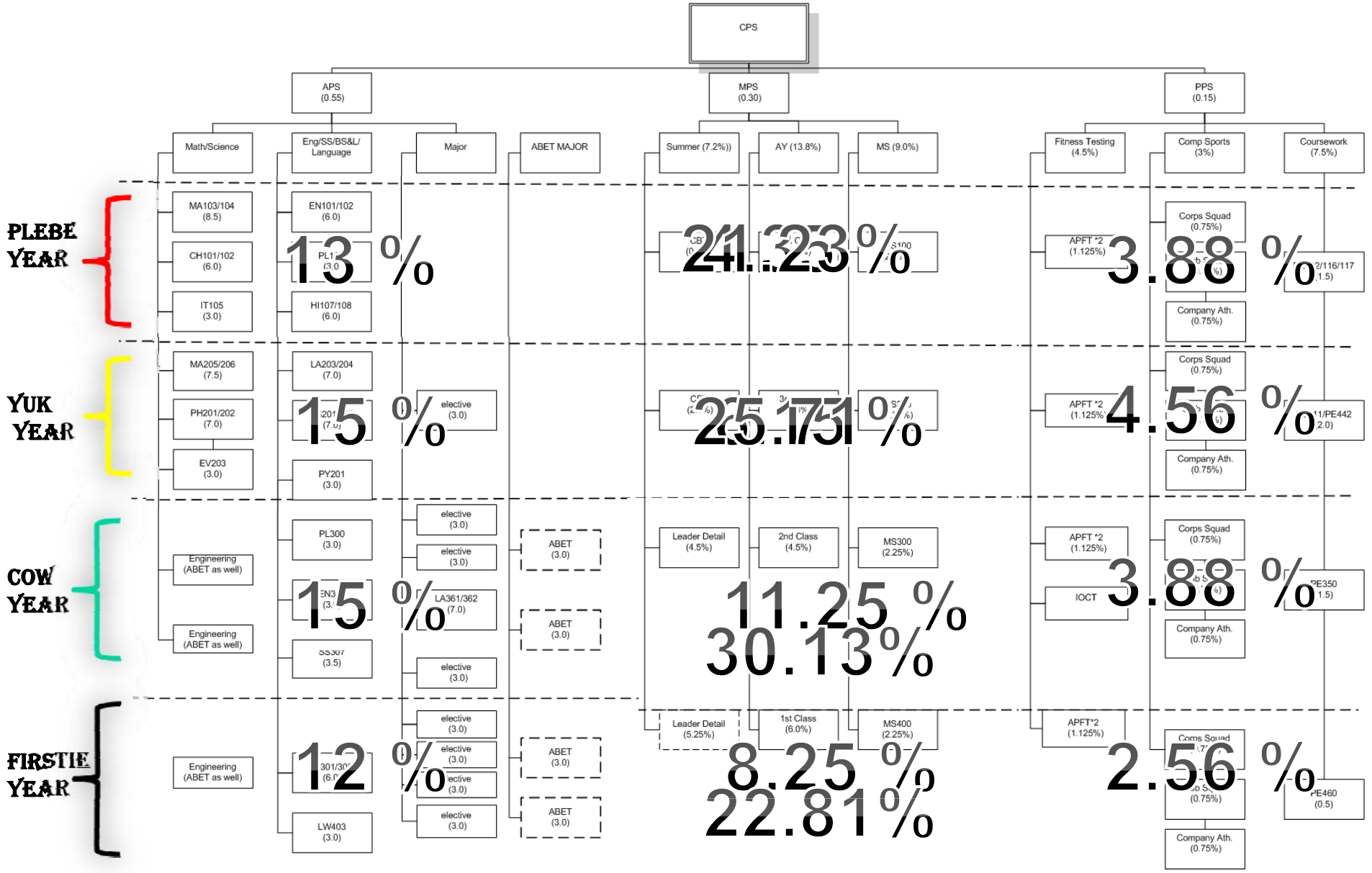

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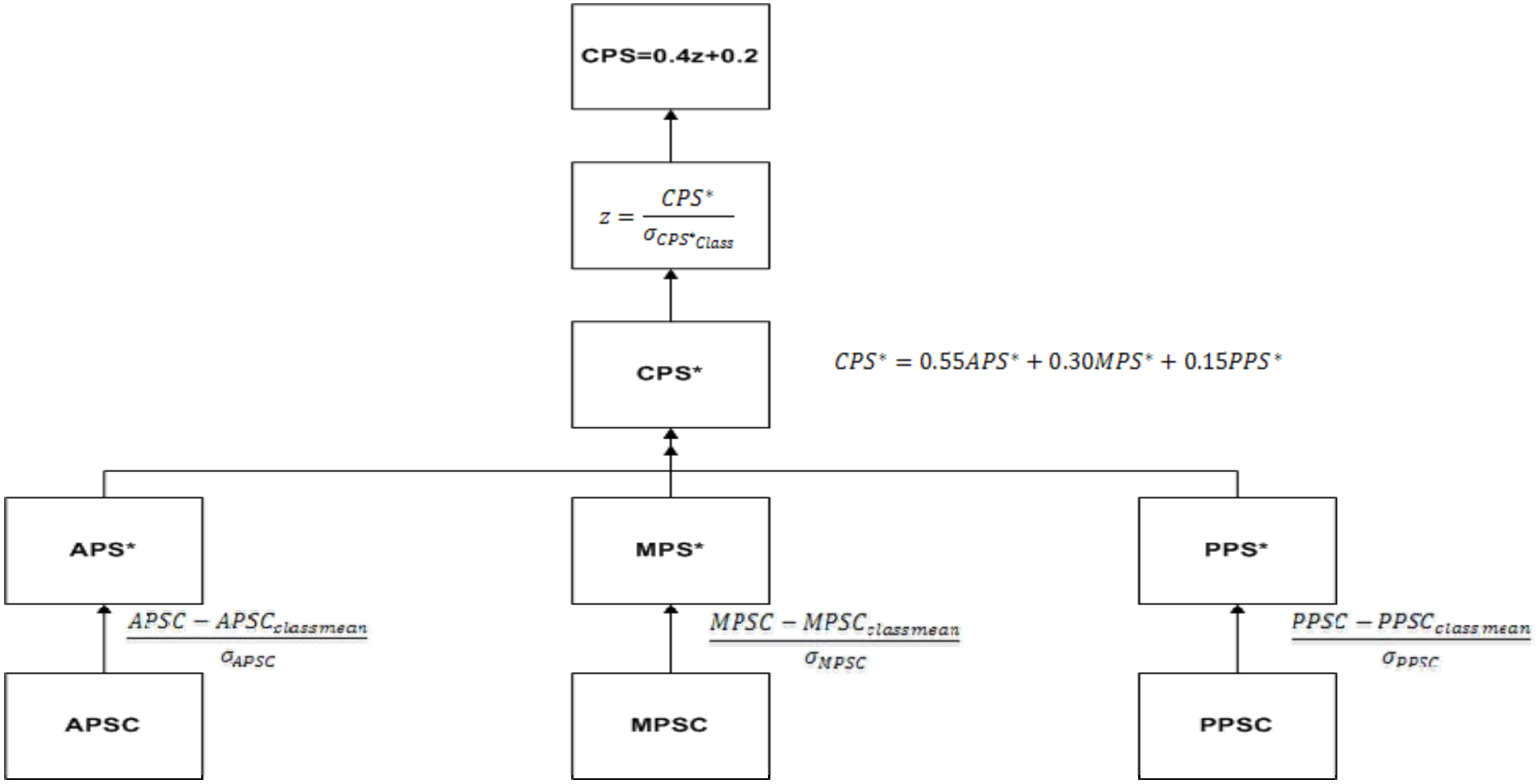

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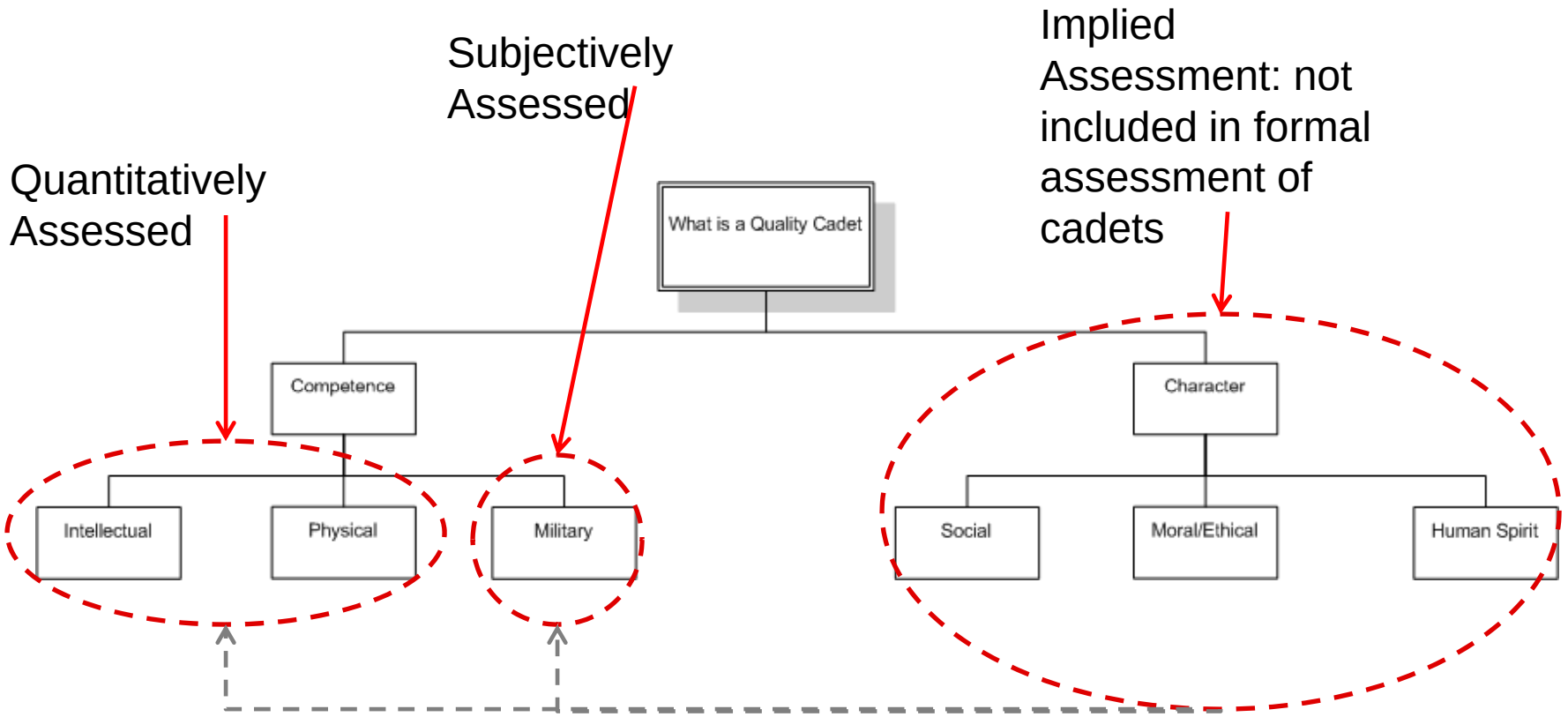

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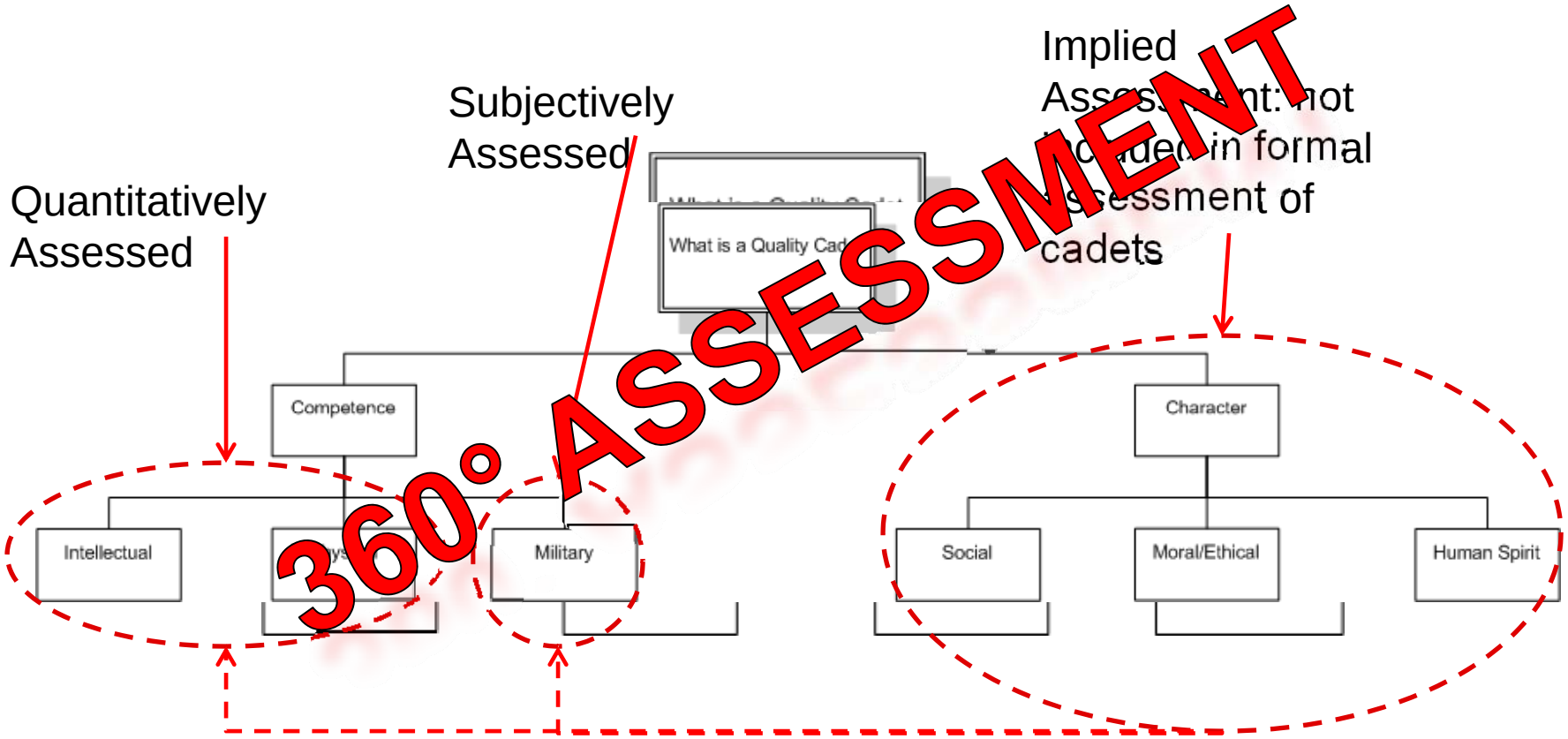
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